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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/672,535	09/28/2000	Nikolaus P.W. Almassy	TI-31683	8495

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EXAMINER

CORSARO, NICK

ART UNIT	PAPER NUMBER
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2684

DATE MAILED: 04/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/672,535

Applicant(s)

ALMASSY, NIKOLAUS P.W.

Examiner

Nick Corsaro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 15, and 17 is/are rejected.
- 7) ☒ Claim(s) 4-14, 16 and 18-30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2, 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements filed 09/28/200 and 08/05/2002 have been received and placed of record in the file.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Reference number 16, figure 1, (page 9 of description), Reference number 64, figure 1-2 (page 14 of description). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 15 objected to because of the following informalities: In line 6, the phrase "during in response to" renders the claim confusing, but still understandable. The examiner suggests that the claim would be more clear if the word "during" were deleted and the phrase was written "in response to", Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 2, recites the limitation "the first mobile station" in line 6. There is insufficient antecedent basis for this limitation in the claim.

For examination purposes the limitation will be understood to mean "the mobile station".

6. Claim 20 recites the limitation "the first mobile station" in line 3. There is insufficient antecedent basis for this limitation in the claim.

For examination purposes the limitation will be understood to mean "the mobile station".

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-3 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Shi et al. (6,289,227).

Consider claim 1, Shi discloses a wireless communications network (see abstract lines 1-2, col. 1 lines 8-11, col. 2 lines 17-67, col. 3 lines 1-36, and col. 4 lines 37-39, where Shi is describing a mobile phones actions interacting with the network, and thus discloses a wireless communication network). Shi discloses a method for adaptively modifying the sleep-mode behavior of a mobile station (see col. 4 lines 13-15, col. 3 lines 34-46, col. 3 lines 1-6, col. 3 lines 46-67, col. 5 lines 10-17, col. 5 lines 22-45, col. 4 lines 37-39, and col. 4 lines 45-48, where Shi is describing modifying the duty cycle of the mobiles periodic wake-up from sleep mode to monitor for paging in the network in real time based on different page rates, therefore adaptive modifying). Shi discloses maintaining a record of traffic communications to a mobile station (see col. col. 3 lines 35-67, col. 5 lines 23-45, col. 6 lines 15-18, and col. 3 lines 1-20, where Shi

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describes the mobile phone counting and storing the number of pages, i.e., calls or system communications to the phone over a period of time in the paging slot cycle, therefore maintaining a record of communications). Shi discloses in response to the traffic communications record, determining cyclic patterns of traffic communication activity (see col. 5 lines 38-45, col. 6 lines 15-40, and col. 5 lines 10-22, where Shi describes recording the number of pages, and determining a paging rate or the number of communication per unit time period, i.e., the frequency or cycle of communications). Shi discloses reducing control communications with the wireless communications network during periods determined to have low traffic communication activity (see col. 9 lines 25-45, col. 3 lines 1-20, col. 5 lines 9-45, col. 6 lines 15-40, and col. 11 lines 10-42, where Shi is describing the mobile sleeping through page slots, and thus not receiving or responding to pages or control messages in those page slots, thus reducing communications when activity is determined to be low).

Consider claim 2, and the above USC 112 rejection, Shi teaches the wireless communications network includes a base station to transmit broadcast messages monitored by the mobile station (see col. 5 lines 10-22 and col. 9 lines 45-50). Shi discloses reducing control communications with the wireless system during periods determined to have low traffic communication activity includes the mobile station reducing the monitoring of base station broadcast messages (see col. 5 lines 9-22, and col. 9 lines 25-45, as discussed above the phone skips monitoring a number of page slots).

Consider claim 3, and the above USC 112 rejection, Shi teaches control communications between the base station and the mobile station include a slotted mode of operation where the mobile station monitors broadcast messages from the base station transmitted at a first periodic

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rate (see col. 3 lines 1-19, col. 4 lines 36-52, col. 5 lines 10-45, and col. 3 lines 35-64, where Shi is stating slotted mode operation of awaking the mobile to monitor paging slots at an initial interval based on a first preprogrammed missed page rate and upon comparing the missed paged rate to a measured rate, the phone begins skipping numbers of paging slots based on a comparison of the two and the mobile remaining asleep for longer intervals of page slots, therefore a first rate and second rates). Shi teaches reducing control communications with the wireless system during periods determined to have low traffic communication activity includes the mobile station operating in a deep-sleep slotted mode where the mobile station monitors broadcast messages from the base station transmitted at a second periodic rate, slower than the first rate (see col. 3 lines 61-64, col. 3 lines 35-64, col. 4 lines 35-67, col. 5 lines 9-45, col. 9 lines 25-45 col. 8 lines 57-67, and col. 9 lines 1-12, where Shi is saying the phone wakes up to receive a page slot at a first interval when the page rate R is more than a threshold and less often when the measured page rate R is low, thus as defined by the above limitation a deep sleep slotted mode where the second rate is slower than the first).

Consider claim 17, Shi teaches a wireless communications network (see abstract lines 1-2, col. 1 lines 8-11, col. 2 lines 17-67, col. 3 lines 1-36, and col. 4 lines 37-39, where Shi is describing a mobile phones actions interacting with the network, and thus discloses a wireless communication network). Shi teaches a system for adaptively modifying the sleep-mode behavior of a mobile station (see col. 4 lines 13-15, col. 3 lines 34-46, col. 3 lines 1-6, col. 3 lines 46-67, col. 5 lines 22-45, col. 4 lines 37-39, col. 4 lines 45-48, and col. 5 lines 10-17, where Shi is describing modifying the duty cycle of the mobiles periodic wake-up from sleep mode to monitor for paging in the network). Shi teaches a mobile station (figure 3) having a wireless

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communications port (310, figure 3) to communicate traffic and control communications with the wireless communications network (see col. 9 lines 45-55). Shi teaches an interacting memory (340), microprocessor (320), and software application of machine executable instructions to maintain a record of mobile station traffic communications (see col. 10 lines 48-65, col. 9 lines 45-67, and col. 10 lines 1-47). Shi teaches in response to the traffic communications record, determining cyclic patterns of traffic communication activity (see col. 5 lines 38-45, col. 6 lines 15-40, and col. 5 lines 10-22, where Shi describes a paging rate or the number of communication per unit time period, i.e., the frequency or cycle of communications). Shi teaches wherein control communications are reduced between the mobile station and the wireless communications network during periods determined to have low traffic communication activity (see col. 9 lines 25-45, col. 3 lines 1-20, col. 5 lines 9-45, col. 6 lines 15-40, and col. 11 lines 10-42, where Shi is describing the mobile sleeping through page slots, and thus not receiving or responding to pages or control messages in those page slots, thus reducing communications when activity is determined to be low).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shi et al. (6,289,227) in view of Willey et al. (6,041,241).

Consider claim 15, Shi discloses the mobile station, as discussed above, wherein the sleep mode of the mobile is modified. Shi discloses the mobile station includes a battery (see col. 2 lines 65-67, col. 3 lines 1-20, col. 4 lines 53-55, col. 9 lines 45-50, and col. 10 lines 60-65). Shi discloses conserving battery power by operating the phone in slotted mode and varying the slot monitoring to reduce control communication with the network for conservation of battery power (see col. 4 lines 35-67, and col. 5 lines 1-45, where shi is discussing slotted mode operation, slot cycle index, and varying the monitoring of the paging slot to conserve battery power).

Shi does not specifically disclose detecting the condition of the mobile station battery; and reducing control communications with the wireless communications network during in response to the condition of the mobile station battery. Willey teaches detecting the condition of the mobile station battery; and reducing control communications with the wireless communications network during in response to the condition of the mobile station battery (see col. 1 lines 5-12, col. 1 lines 45-52, col. 2 lines 12-31, col. 3 lines 60-67, and col. 4 lines 1-21, where Willey is discussing changing the slot cycle index or the sleep behavior of the phone based on battery power, thus if the phone is asleep more often control communications with the network is reduced because no communication can take place). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Shi, and detect the condition of the mobile station battery; and reducing control communications with the wireless communications network during in response to the condition of the mobile station battery, as taught by Willey, thus allowing a new slot cycle index to be determined when the mobile detects low battery to balance power saving and call operations, as discussed by Willey (col. 1 lines 60-62, and col. 1 lines 24-60).

Allowable Subject Matter

11. Claims 4-14 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12. Claims 16, 18-19, and 27-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Claims 20-26 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 4-14, the prior art of record fails to teach a method of adaptively modifying the sleep mode behavior of a mobile station operating in slotted mode at a first periodic rate, by maintaining a traffic communication record of traffic communication to determine cyclical patterns of traffic communications over a period of time greater than a day to determine daily communication patterns, and in response to the traffic communication record reducing control communications with the mobile station during periods of low traffic communications by having the mobile operate in a deep sleep slotted mode of operation reducing monitoring of base station broadcast messages to a second rate slower than the first periodic rate.

Shi et al., cited above, modifies the sleep mode of mobiles operating in slotted mode by making communication of the mobile over a period of time (T) and having the mobile operate in the slotted mode at a second rate. Shi however does not teach the time T can be more than a day

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but says the time could be long or short but does not indicate a time and indicates throughout the description that the time is of the order of minutes or several hours.

Chien et al. (5,627,882) discloses a method of modifying the sleep mode of mobile stations where for a period of 24 hours for 7 days the call interactions are logged to determine patterns of operation, however, Chien is not discussing mobiles operating in slotted mode where the mobile awakes to monitor a paging slot and the delay between scanning periods is altered. Chien however is discussing the dwell period between which the mobile monitors several control channels to check for other base stations, and is not discussing altering the dwell time between awaking and monitoring the paging slot on one control channel (slotted mode). Therefore, Chien cannot reasonably be used to modify Shi with proper motivation and in proper combination.

With regard to claim 16, the prior art of record fails to show a method of adaptively modifying the sleep mode behavior of a mobile station, by maintaining a traffic communication record of traffic communication and in response the record determining cyclical patterns of traffic communications over a period of time, and reducing control communications with the mobile station during periods of low traffic, where a base station message service is included and following the reducing of communications when the mobile tries to initiate a communication, a warning is issued from the base station message service stating that initiation of a traffic communication with the mobile will be delayed.

Henry et al. (5,590,396) discloses a power saving method in a mobile where when the mobile enters the sleep mode it informs the system and subsequently goes to a mode where it can receive messages. Henry states that if a call is incoming to the mobile and the mobile is in sleep mode that the caller is prompted to send a short text message. Therefore, Henry is stating a

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message center. Henry however is not disclosing that when the mobile is in sleep mode and the user of the mobile tries to make a call that the user is informed by text message that call processing will be delayed. That is, Henry is informing the caller of the mobile not the called party (user) of the mobile that processing is delayed.

With regard to claims 18-26, the prior art of record fails to teach a system for adaptively modifying the sleep behavior of a mobile station having a memory for keeping a record of the communications and response to the record determining cyclical patterns of communications where control communication between the mobile and base are reduced during periods of low traffic by decreasing the broadcast messages from the base station when control communications between the network and mobile are reduced.

Shi et al., cited above, and discussed above, alters the sleep mode behavior of a mobile operating in slotted mode by having the mobile not monitor or respond to numbers of paging slots thus remaining asleep during those slots. Shi states in the description that even though the mobile of interest has its sleep behavior altered that slotted mode systems remain broadcasting in the un-monitored page slot for the mobile of interest and other mobiles. Therefore, Shi is not disclosing reducing the broadcast messages from the base stations. In a similar fashion the other reference from the relevant subclasses disclose the system broadcasting at a constant rate in slotted mode and are directed more toward the altering the mobiles sleep pattern than the systems sleep pattern and are not disclosing decreasing the broadcast messages from the base station or system.

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Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(6,501,969), Cannon teaches altering a mobile sleep behavior based on a 24 hour record, however Cannon is not disclosing the mobile making the record or making a record of more than 24 hours.

(6,522,873), Moles teaches altering slotted mode based on battery signal, however, the battery signal is an external battery and therefore the reference was not used.

16. Any inquiry concerning this communication should be directed to Nick Corsaro at telephone number (703) 306-5616.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost, can be reached at (703) 308-5318. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for Technology center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth, Floor (Receptionist). Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 customer Service Office whose telephone number is (703) 306-0377.

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Nick Corsaro

A handwritten signature in black ink, appearing to read "Nick Corsaro", with a long horizontal flourish extending to the right.